In the matter of	an application by NZSki Limited to upgrade the Remarkables Ski Area and the Doolans Expansion [FTAA-2605-1236]
By	**NZSki Limited**
	Applicant

Statement of Evidence of Dr Rowan James Dixon (Climate Change) on behalf of Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou, Hokonui Rūnanga, Waihōpai Rūnanga, Te Rūnanga o Awarua, Te Rūnanga o Ōraka Aparima, Te Ao Marama Incorporated and Aukaha (1997) Limited

27 October 2026

Applicant's solicitors:
Ben Williams | Rachel Robilliard
Anderson Lloyd
Floor 2, The Regent Building, 33 Cathedral Square, Christchurch 8011
PO Box 13831, Christchurch 8141
DX Box WX10009 Christchurch
p + 64 3 379 0037

[redacted]

anderson lloyd.

Introduction

Qualifications and experience

1 My full name is Dr. Rowan James Dixon. I am an Associate Director – Climate and Sustainability at WSP, based in New Plymouth, Aotearoa New Zealand.

2 I hold a Doctorate of Philosophy and a Master of Planning in climate, community and environmental related fields. My academic and professional work concerns climate change impacts, climate risk assessment, adaptation planning, sustainability, infrastructure resilience and decision-making under uncertainty.

3 My current position is Associate Director – Climate and Sustainability at WSP. In that role I advise public and private sector clients on climate-related risks, adaptation pathways, strategy and reporting, infrastructure and asset management, and the integration of climate change considerations into planning, investment and operational decision-making.

4 My 18 years of professional experience includes assessments of climate change implications for infrastructure and development proposals, including consideration of future climate projections, natural hazards, water availability, asset performance, service continuity, operational resilience and the relationship between climate-related physical risks and economic, environmental and social outcomes.

5 I have particular experience in applying climate risk and adaptation methods to infrastructure and land-use decisions. This includes identifying material climate hazards, assessing exposure and vulnerability, considering plausible future climate scenarios, and advising on whether proposed responses are sufficiently robust, adaptive and decision-useful over the relevant assessment period.

Purpose and scope of evidence

6 The purpose of my evidence is to assist the Expert Panel by addressing whether the climate change material provided in support of the proposed Remarkables Ski Area Upgrades and Doolans Expansion Project (hereafter the Application) from NZSki (the Applicant) is sufficient to inform a decision on the Application. My evidence focuses on whether the Application has adequately assessed the climate-related matters that are material to the proposal, including future snow reliability, snowmaking water demand, water availability, freshwater effects, natural hazard exposure,

infrastructure and operational resilience, and the robustness of economic assumptions over the proposed concession term.

7 For over a decade, Te Rūnanga o Ngāi Tahu has demonstrated a clear and principled concern with and commitment to climate change kaupapa as a matter of rakatirataka, kaitiakitaka, intergenerational responsibility, and protection of the takiwā. These concerns are expressed in Te Rūnanga o Ngāi Tahu's climate change strategy, Te Tāhū o te Whāriki (Anchoring the Foundations), finalised in August 2018, which recognises climate change as affecting all Kāi Tahu rights, interests, assets and activities, and calls for proactive preparation for more severe impacts across the takiwā. Te Rūnanga o Ngāi Tahu further developed its climate kaupapa in Te Kounga Paparangi Climate Action Plan, publicly released in July 2022, which identifies climate effects from Aoraki across the high country, down the awa, across wetlands and to te moana. It records concerns including melting glaciers, scarcer mahika kai resources, risk to taoka species, water protection, biodiversity protection, resilience of Māori infrastructure and significant sites including marae, and long-term resilience for current and future generations. These concerns underline the importance of adequate consideration and assessment of climate change for a proposed development in the Kāi Tahu takiwā, especially one in a culturally significant and ecologically sensitive alpine environment.

8 I have considered the following principal NZSki documents as matters of relevance to this kaupapa, together with other application materials referred to where relevant:

(a) FTAA-2605-1236 Remarkables and Doolans RFI Response Climate Change;

(b) FTAA-2605-1236 Remarkables and Doolans RFI Response Summary;

(c) B-01 Economic assessment of the Remarkables Ski Area Upgrade and Doolans Expansion Updated 9 June 26;

(d) B-08 Doolans Creek Water Take Assessment of Effects 26 Aug 26;

(e) B-09 Freshwater Ecological Impact Assessment 27 Aug 26;

(f) B-15A Remarkables Ski Area Upgrade and Doolans Expansion Natural Hazards Assessment;

(g) B-10 Rastus Burn Wastewater Freshwater Ecological Impact Assessment 28 Aug 26;

(h) B-11 Wastewater Discharge Impact Assessment 28 Aug 26;

(i) Periphyton Risk Assessment Rastus Burn Wastewater 28 Aug 26;

(j) B-14 Tracks, Crossings, Stormwater Freshwater Ecological and Hydrological Impact Assessment Updated 27 Aug 26; and

(k) A-21 Effects Management and Compensation Overview Addendum.

9 My evidence in this proceeding is directed to matters within my area of expertise. Where I refer to hydrology, freshwater ecology, natural hazards, snowmaking operations or economics, I do so for the purpose of assessing whether those matters have been adequately integrated into a climate resilience assessment and whether the information before the Panel is sufficiently current, integrated and decision-useful to support robust decision-making. I do not seek to provide a replacement hydrological, freshwater ecological, natural hazards, snow operations or economic assessment.

10 I address these matters in the following sections by reviewing the Applicant's assessment against the principal climate-related issues that are material to the proposal. I first consider the adequacy of the climate evidence relied on for future snow conditions and snowmaking, then address water availability, freshwater effects, climate data, natural hazards, infrastructure resilience and the implications of these matters for the economic assessment.

Code of Conduct for Expert Witnesses

11 Although these proceedings are not before the Environment Court, I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and agree to comply with it while giving oral evidence before the Expert Panel. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Executive Summary

12 I have reviewed the Applicant's principal climate-related materials and identify key deficiencies. The central evidential gap is that the material does not provide a current, site-specific assessment of future snow conditions, snowmaking windows and snowmaking water demand in the Doolans Basin.

13 Snowmaking is relied upon and is central to the Applicant's claimed resilience of the proposal under future climate conditions. However, the Application does not demonstrate that sufficient water will be available when snowmaking is most needed, or that water abstraction can occur without unacceptable ecological effects over the proposed course of the 40-year concession. The claimed Low-level effect of water abstraction is also undermined by the lack of assessment of future climate conditions.

14 The assessments of natural hazard, wastewater, stormwater, access tracks and related infrastructure, and biodiversity compensation do not consider climate-related risks or where climate change can alter the frequency, severity and interaction of hazards and environmental pressures that affect infrastructure, operational continuity, and biodiversity compensation outcomes.

15 The Application also does not contain an effective adaptive management pathway, and instead only addresses monitoring requirements. An effective pathway should link monitoring to decision-making, review periods, responsibilities or required responses if climate-related, operational or environmental limits are approached. A decision-linked adaptive management framework is required because monitoring alone does not ensure timely and effective action.

16 The Application does not adequately assess the risks of maladaptation, escalating operating requirements, infrastructure lock-in or stranded assets if future snowmaking, water, environmental or commercial thresholds cannot be maintained. Nor does it demonstrate that decommissioning and rehabilitation would remain technically feasible and adequately funded under future climatic and ecological conditions.

17 Lastly, the economic assessment provides significant projected benefits without being substantively climate-tested. It does not assess whether projected skier numbers and benefits remain achievable with reduced natural snow, increased snowmaking costs, water constraints, climate related-hazards or fewer operating days. These matters should be assessed in order to properly consider the robustness of the projected net benefits.

18 Taken collectively, the principal climate-related materials do not demonstrate an integrated, project-level assessment of snow reliability, snowmaking demand, water availability, freshwater ecological effects, natural hazard exposure and economic performance for the 40-year concession period. In my opinion, the available climate-related information provides an insufficient basis for the Expert Panel to rely on the project's

claimed long-term operational viability, environmental sustainability and economic benefits.

19 In the absence of the further information and assessments as detailed above, in my opinion, the Application should be declined.

Peer review of Applicant's assessment

20 The NZSki documents reviewed identify climate change as a relevant consideration for the Remarkables Ski Area Upgrades and Doolans Expansion Project, but they do not demonstrate that the proposed expansion has been tested against future climate conditions over the proposed concession term. The key evidential concern is that snowmaking, water availability, freshwater effects, natural hazard exposure and economic benefits are considered in separate technical documents rather than as an integrated climate resilience assessment.

21 I have not identified in the climate material reviewed an express assessment of how the climate concerns articulated by iwi and rūnaka have informed the proposal's climate-risk assessment, adaptation response or intergenerational decision-making. In my opinion, that is a material limitation in the climate evidence.

Reliance on dated snow-climate studies

22 NZSki's Climate Change RFI Response relies on Hendrikx et al. (2012) and Hendrikx and Hreinsson (2012). NZSki acknowledges that this research is now almost 15 years old but considers that its findings remain relevant and relies on the papers to assess climate change effects on snow. The memorandum uses this material to support the proposition that the Remarkables, given its altitude and aspect, is likely to retain viable snow conditions and that snowmaking technology can offset reductions in natural snow.

23 In my professional opinion, this is not a sufficient basis for a 40-year concession decision. The 2012 studies may be relevant background evidence, but they do not replace a current, site-specific assessment for the Doolans Basin. The Ministry for the Environment's A guide to local climate change risk assessments provides a relevant, although non-statutory, framework for identifying hazards, selecting scenarios and timeframes, assessing physical risk and linking risk assessment to adaptation planning. In my professional opinion, the proposal requires a test of how the actual project will perform under future conditions, not simply reliance on regional or industry-level conclusions about snowmaking potential. The memorandum does not provide a quantified assessment of

the Doolans Basin's future snowpack, melt rates, snowmaking windows or water demand under contemporary climate projections.

24 This extends to sections 4(a–b) of NZSki's Climate Change RFI Response Summary, which consider the possibility that the activity becomes unviable in the future. The response does not demonstrate how future climatic and ecological conditions have been considered in relation to remediation and facility removal. In my opinion, those assessments should account for the conditions reasonably expected when decommissioning occurs, rather than assuming that present-day sensitivities and vulnerabilities will remain unchanged.

Absence of a site-specific snow modelling assessment

25 NZSki's Doolans Creek Water Take Assessment includes snowmaking water demand calculations and identifies that the proposed trails require 0.5 m of base and conditioning snow collectively. The same assessment identifies calculated snowmaking water demand of approximately 38,134 m³, compared with a maximum monthly take of 38,872 m³ and a maximum annual take of 41,240 m³, and describes the role of the 19,000 m³ reservoir in buffering snowmaking demand. However, this does not amount to a snow model.

26 For the proposed trails and elevations, a defensible assessment would model seasonal base snow requirements, conditioning snow requirements, melt rates, temperature, precipitation, wind redistribution, snowmaking windows, and resulting water demand under selected climate scenarios. A project-level snow modelling assessment should then compare projected snowmaking water demand with reservoir storage and recharge under future hydrological conditions. No such integrated assessment appears to have been provided.

27 There is publicly available information on climate change projections that could support assessment of future snow conditions. The updated national climate projections developed by the National Institute of Water and Atmospheric Research (NIWA) and made available through the Ministry for the Environment's Climate Projections Map and Climate Projections Core Public Dataset use CMIP6-informed modelling, include Shared Socioeconomic Pathway scenarios, and provide downscaled information at approximately 5 km resolution for variables and indices relevant to this assessment, including temperature, rainfall, wind, humidity, dry days, frost days, heavy rainfall and drought exposure through potential evapotranspiration deficit. These datasets provide an appropriate starting point for project-specific analysis, although further downscaling, temporal

analysis or tailored modelling may be required for snowmaking windows, wet-bulb temperature, snow accumulation and catchment hydrology. The climate material reviewed does not use those datasets to model and assess future snow conditions and requirements in the Doolans Basin.

28 This is a material gap because snowmaking is central to the claimed resilience of the project. NZSki's Climate Change RFI Response relies on snowmaking technology as a major adaptation measure, but the Application does not demonstrate that there will be sufficient water, at the right time, under future climate conditions, to make the snow required without unacceptable ecological effects.

MALF and hydrological assumptions are not adequately climate-tested

29 NZSki's Doolans Creek Water Take Assessment estimates a modelled median flow of 132 L/s and mean annual low flow (MALF) of 67 L/s at the intake catchment, with a proposed maximum abstraction of 30 L/s and residual flow condition of 33.5 L/s. The proposed take is described in that assessment as approximately 46% of intake MALF, with downstream effects reducing as catchment area increases.

30 These figures are important, but they appear to be presented largely as current or baseline hydrological estimates. NZSki's Doolans Creek Water Take Assessment refers to climate information from the Ministry for the Environment's 5 km Climate Projections Map, but expressly states that climate change risk has not been assessed and does not translate the available information into a site-specific assessment of future low flows, seasonal recharge, abstraction reliability or ecological stress during snowmaking periods. The Ministry for the Environment's A guide to local climate change risk assessments, ISO 14090:2019, and ISO 14091:2021 provide relevant methodological guidance. Because the assessment does not undertake that site-specific climate testing, it does not clearly demonstrate whether the proposed residual-flow regime remains protective under changed future hydrological and ecological conditions.

31 NZSki's Freshwater Ecological Impact Assessment identifies Doolans Creek as having High ecological value and describes potential water-take effects, including a maximum take equivalent to approximately 46% of the modelled MALF at the intake, affecting approximately 600 m of fishless reach for the equivalent of up to 16 days per year, with effects reducing downstream as tributary inflows enter the creek. The assessment concludes that the water abstraction has a Low-level effect and records a proposed minimum residual flow of 33.5 L/s. Separately, it recommends management measures for the weir installation. The assessment also

identifies Tarn 3 as having High ecological value and concludes that converting it into the lined reservoir would permanently remove approximately 4,450 m², or 16% of the Doolans Basin's tarn habitat. It assesses that loss as a High level of effect, which remains High pending confirmation and implementation of the proposed compensatory measures. However, the assessment does not provide an explicit climate change impact assessment of future flow, temperature, recharge or ecological stress conditions.

32 In my professional opinion, this is a material evidential weakness. The conclusion that the water abstraction has a Low-level effect is less robust if it has not been tested against future flow, temperature, recharge and ecological stress conditions over the concession term.

33 If future low flows are lower, more frequent or more prolonged than the modelled baseline, the 33.5 L/s residual flow proposal may restrict abstraction more frequently or for longer durations. At the same time, warmer water and prolonged low-flow may result in the residual flow not providing the same level of ecological protection as it would under present-day conditions. Reduced flow may also reduce the rate at which the proposed reservoir can be replenished which is of particular concern in terms of the volume of water available for snowmaking during critical operational periods.

34 In the absence of climate-related modelling or sensitivity testing, it is my opinion that there is great uncertainty regarding whether the residual flow would remain protective, whether the reservoir could be replenished as assumed, and whether the proposed abstraction could support the anticipated ski field operation throughout the 40-year concession term. That uncertainty reduces the robustness of the conclusion that the abstraction will have a Low-level ecological effect, and that there will be sufficient water available to support snowmaking.

Off-site climate data and acknowledged need for further assessment

35 NZSki's Doolans Creek Water Take Assessment relies on climate data sources including Queenstown Airport, NIWA Virtual Climate Station Network data and Mt Larkins, and notes the absence of a Remarkables-specific climate station. The voluntary international adaptation standards ISO 14090:2019 and ISO 14091:2021 provide relevant methodological benchmarks for this type of assessment. ISO 14090:2019 addresses adaptation principles, requirements and guidance, including integration of adaptation into decision-making and treatment of impacts and uncertainty, while ISO 14091:2021 provides guidance on vulnerability, impacts and risk

assessment for present and future climate risks. The off-site climate data used in the assessment does not in itself demonstrate that those data adequately represent Doolans Basin conditions, addresses material uncertainties, and supports conclusions about resilience over the proposed 40-year concession.

36 This limitation is especially important because snow accumulation, snowmelt, wind redistribution, wet-bulb temperature, and snowmaking windows can vary significantly with elevation, aspect, exposure, and local alpine conditions. The Application assumes and promotes Doolans Basin as resilient because of its altitude, aspect, and snow-holding characteristics. Those same characteristics require site-specific testing and modelling rather than reliance on generalised or off-site climate information.

Natural hazard analysis is not fully integrated with climate resilience

37 NZSki's Natural Hazards Assessment identifies a range of hazards relevant to the project, including solifluction, seismic hazards, land stability, landslide, flood, debris flow, rockfall, snow avalanche, and wind. It acknowledges that climate change may increase precipitation and temperature and may influence wind speed, wind run, snow stripping from ridgelines, and redeposition on lee slopes and basins. It also notes that lee-slope avalanche risk is known and currently managed through operational controls.

38 The assessment provides useful hazard identification and engineering mitigation information, including wind design values and operational mitigation measures. However, it does not appear to assess in depth how natural hazard risk may evolve over the 40-year concession in a way that affects the viability or resilience of the ski field. The Ministry for the Environment's climate-risk guidance and ISO 14090:2019 and ISO 14091:2021 provide relevant benchmarks for assessing exposure, vulnerability, uncertainty and adaptation over an asset's life. The Natural Hazards Assessment does not demonstrate an equivalent integrated, lifecycle climate-risk assessment for the proposed development. For example, increased wind redistribution may affect snow availability, avalanche risk, operational closures, infrastructure exposure and maintenance costs.

Wastewater and periphyton performance

39 The wastewater and periphyton assessments address nutrient enrichment, thermal effects and adaptive-management triggers. However, they should demonstrate whether the adopted thresholds, dilution assumptions, and treatment and receiving-environment conclusions remain valid under

plausible future low-flow and warmer-water conditions and the proposed peak visitor loading. To the extent those conclusions have not been explicitly climate-tested, their long-term robustness remains uncertain.

Stormwater, crossings and access infrastructure

40 The tracks, crossings and stormwater assessment should identify the future rainfall allowances and assessment horizon applied to tracks, culverts, stream crossings, swales, trenches and access routes. It should also explain whether compound or cascading events—including rain-on-snow, rapid thaw, blockage, sediment-laden flows and debris movement—could materially alter the assessed effects or the performance of mitigation measures. Assessment of exceedance consequences, scour, erosion, slope saturation, sediment delivery and post-event access would provide greater confidence that the infrastructure is resilient over the concession term.

Climate durability of Tarn 3 compensation

41 The Applicant proposes an integrated Biodiversity Compensation Project to address residual terrestrial and freshwater effects, while acknowledging that an overall net gain has not been confirmed. The compensation framework should also demonstrate that its intended outcomes are durable and achievable under plausible future temperature, snow-cover and hydrological conditions, with climate-sensitive performance criteria, monitoring, contingency responses, implementation responsibility and maintenance over the relevant consent or concession period.

Decision-linked adaptive management

42 The Application should establish how monitoring information will inform future decisions. Relevant indicators may include temperature, wet-bulb temperature, precipitation, snow depth, wind, streamflow, water demand and environmental performance. The framework should specify review periods, responsibilities, decision thresholds and available responses, including operational changes, reduced abstraction, additional mitigation, reassessment of infrastructure requirements, or, if viability or environmental thresholds cannot be maintained, partial closure or decommissioning. Monitoring without defined decision rules would not, by itself, amount to an adaptive management pathway.

Maladaptation, stranded assets and decommissioning security

43 The claimed adaptation benefit of developing higher and south-facing terrain should be assessed against the additional reliance on snowmaking,

water storage, pumping and long-lived infrastructure in an undeveloped alpine basin. That assessment should consider the potential for maladaptation, escalating operating requirements, infrastructure lock-in and stranded assets if future snow, water, environmental or commercial thresholds cannot be maintained.

44 The Application should also demonstrate that decommissioning and rehabilitation are technically feasible under future climatic and ecological conditions, identify the infrastructure and disturbed areas to be addressed, allocate responsibility, and provide an appropriate mechanism to ensure that the required work can be funded. In these circumstances, there is potential for landscape, ecological and other environmental effects to continue after the infrastructure is removed and the affected areas are rehabilitated.

45 A further potential maladaptation arises from the interaction between artificial snow and alpine ecosystem adjustment. Climate change is expected to reduce natural snow cover and shorten snow seasons in New Zealand's mountains. Thinner snow cover and earlier melt would generally lengthen the growing season and drive gradual changes in alpine plant phenology, stress traits, fauna and ecological interactions. By contrast, repeated snowmaking, snow compaction and grooming can maintain colder ground conditions, prolong snow lie and increase soil freezing on managed slopes. Those conditions may degrade affected ecosystems and may also impede their gradual adjustment to the warmer and drier conditions developing in surrounding areas. If winter temperatures later rise beyond the point at which snowmaking remains technically or commercially feasible, the managed ecosystem could be exposed abruptly to climatic conditions from which it has effectively been buffered for decades. Vegetation and associated soil and invertebrate communities may then be poorly equipped to withstand warmer, drier summers, creating a risk of substantial dieback and continuing ecological effects on abandoned runs.

46 This risk also limits reliance on concession requirements to make good damage or replant affected land with indigenous vegetation of similar abundance and diversity. Decades of ecological maladaptation would not be readily reversed by removing infrastructure and replanting. Landscape-scale planting with lower-elevation ecotypes would be experimental, may involve only a fraction of the species present, and would not recreate established soil structure, soil and invertebrate biota, or the ecological interactions of the original alpine system.

47 In my opinion, the Application should assess this pathway explicitly and demonstrate how such potentially long-lived and practically irreversible

effects would be avoided, managed or secured against over the concession term.

Climate-related implications for economic assessment

48 NZSki's Economic Assessment presents significant projected benefits from the Doolans expansion. It records 294,735 skier days in 2025 and assumes that the expansion will increase comfortable daily capacity from 3,500 to 6,000 skiers. It projects demand growth by 2035, with skier days reaching approximately 435,969 under a low scenario and 505,260 under a high scenario. It also estimates substantial regional expenditure, GDP, employment, and construction effects.

49 However, the economic assessment does not substantively test whether those benefits are resilient to climate change. In particular, it does not appear to assess:

(a) Whether projected skier-day growth remains achievable under reduced natural snow reliability, shortened seasons and increased reliance on snowmaking terrain.

(b) Whether snowmaking can reliably maintain the proposed trails under future temperature, wet-bulb, wind, and water-availability conditions.

(c) Whether the cost of snowmaking, reservoir operation, pumping, power, maintenance, or alternative technologies could materially affect profitability or net economic benefit.

(d) Whether water take constraints, residual flow requirements, ecological limits, or drought/low-flow conditions could restrict snowmaking when it is most needed.

(e) Whether increased wind, avalanche risk, slips, or other climate-influenced hazards could increase closures, reduce operating days, or increase operating costs.

(f) Whether the claimed benefits remain robust if the Doolans expansion does not deliver the assumed uplift in skier days.

50 This matters because the economic evidence depends on the project being operationally viable and attractive to users over the assessment period. If snow reliability, snowmaking capacity or water availability is materially uncertain, then the projected economic benefits are also uncertain. The economic assessment's conclusion regarding the absence of measurable displacement or land-use substitution costs does not address climate-related operating costs, constraints or risks. Those additional matters

should be assessed separately when considering the robustness of the projected net benefits.

51 Given the dependence of economic benefits and commercial viability on conditions directly affected by climate change, the economic assessment should either be revised to incorporate climate-tested operating scenarios or treated as conditional on climate-resilience evidence that has not yet been provided. This is consistent with established climate-risk and adaptation practice, which integrates climate change into long-term investment and public decision-making. Because climate change has not been integrated into the economic assessment, it remains uncertain whether the benefits would be realised to the extent claimed under climate-affected operating conditions. At a minimum, the assessment does not demonstrate the resilience of those projected benefits over the life of the proposal. Without an assessment and integration of climate change there is a real risk that the Expert Panel gives undue weight to projected benefits that may not be realised under foreseeable future climate conditions.

Conclusion

52 Taken collectively, the climate material reviewed does not demonstrate, to a reasonable level of confidence, that the proposed Doolans expansion is resilient to foreseeable climate change effects over the proposed 40-year concession. The climate material reviewed acknowledges climate change and, in places, identifies relevant risks, but does not demonstrate an integrated project-level assessment of snow reliability, snowmaking demand, water availability, freshwater ecological effects, natural hazard exposure and economic performance.

53 The central evidential gap is the absence of a current, site-specific, climate-tested assessment that links future snow conditions to water demand and environmental effects. Snowmaking is relied on as a key adaptation pathway, but the Application does not adequately demonstrate that the water required for that adaptation will be available when needed, or that it can be taken without unacceptable effects under future climate conditions.

54 For decision-making purposes, the Application cannot reasonably be considered to have demonstrated multi-decadal climate resilience over the sought 40-year concession. The available information provides an insufficient basis for the Expert Panel to place substantial or unqualified weight on the project's claimed long-term operational viability, environmental sustainability and economic benefits insofar as those claims depend on future climate conditions.

55 In my opinion, further assessments that integrate climate change are required before determination. Climate-related resilience has not been demonstrated in the Application, and the Expert Panel cannot safely place weight on projected benefits. In the absence of integrated climate change assessments, the Application should be declined.

Dr. Rowan James Dixon

27 October 2026